



Seminar and Roundtable on Coalbed Methane Development and Potential



POLAND

September 10, 1998

Country Fact Sheet

Current CBM Activities

- Amoco Poland Ltd. Project in Upper Silesia
- Electrogaz Ventures Ltd. Project in Upper Silesia
- PolTex Methane-Texaco Inc. Project in Upper Silesia
- Metanel SA Project in Upper Silesia
- McCormick Poland Ltd. in Upper Silesia

Key Factors in Energy Economy

- In 1994, the total energy consumption was about 3.96 quadrillion Btu: 76% coal, 15% oil, 8% natural gas, 1% hydroelectric.
- Coal is not only the dominant fuel in Poland's economy, but it is also the main source of foreign exchange earnings for the country.
- In 1995, over 98% of consumed oil and almost 60% of consumed natural gas was imported.

Potential Role of CBM in Energy Economy

- Poland is 4th in the world in production of hard-coal with the total reserves of 10.2 to 15 x10¹⁰ st. m³ and 4 x10¹⁰ st. m³ recoverable, hence CBM could become an integral part of the energy economy.
- CBM could help offset some of the debt accrued by the coal industry.
- CBM could help balance the trade deficit by reducing the need to import natural gas.

CBM Potential

- Poland has the potential to be the 2nd largest CBM producer in the world based on reserves in two of the three major coal basins.
- Resources estimates for the Upper Silesian coal basin range from 45.9 to 12.4 Tcf.
- Resource estimates in the Lower Silesian and Lublin basin range from 2.7 to 5.3 Tcf.



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Existing Policies Affecting CBM Development

- *Geological and Mining Law of February 4, 1994* – regulates the ownership of, and the right to explore and extract, natural resources.
- *Energy Law* – obliges energy enterprises to supply and connect customers, meet demand, and initiate actions for reducing consumption.

Overseeing or Permitting Government Agencies

Ministry of Natural Resources
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00-922 Warszawa
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Potential Barriers to CBM Development

- *Lack of technology* – There is a need to expand gas storage and to improve methane drainage systems.
- *Taxes* – More favorable tax conditions could help spur coalbed methane utilization.
- *Adapting to Market Economy* – The inefficient hard coal industry is struggling to adapt to the market economy. Government controlled coal prices and “social employment” remain as serious barriers.

Donors/ Companies/ Investors Active in CBM

AMOCO Poland Ltd., McCormick Poland Ltd., Elektrogaz Ventures Ltd., Metanel S.A. PolTex Methane, Vikelt Ltd., World Bank, U.S. Environmental Protection Agency, U.S. Agency for International Development, European Investment Bank, European Union’s PHARE Program, U.S. Trade and Development Agency



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Amoco Poland Ltd. Project in Upper Silesia

Contact Information	Amoco Poland Ltd.
Status	On-going production testing
Location	Upper Silesia Coal Basin in the states of Krakow and Katowice, Poland
Technical Summary	<p>In 1993, Amoco Poland was awarded a 486 km² concession, including virgin coal and four exploration concessions. The company committed to a total of 15 boreholes, at least 8 of which could be production level. Drilling operations commenced in November 1994 and concluded on November 1996. The entire program entailed drilling 25,515 meters. As of May 1997, production testing was currently on-going.</p>
Estimated Capital and O&M Costs	Amoco Poland has committed US\$10 million to this project.
Proponents/ Sponsors of the Project	Amoco Poland Ltd.



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Elektrogaz Ventures Project in Upper Silesia

Contact Information	Elektrogaz Ventures
Status	Suspended
Location	Upper Silesia Coal Basin in the state of Katowice, Poland
Technical Summary	This tract encompasses four exploration concessions and is bordered by several mines that use some of the gas drained from their workings.
Proponents/ Sponsors of the Project	Electrogaz Ventures
Lessons Learned	The company has suspended the program because the developer claims the concession is under high environmental protection requirements by local authorities.



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PolTex Methane-Texaco Inc. Project in Upper Silesia

Contact Information

Texaco Poland

Status

On-going

Location

Upper Silesia Coal Basin in the state of Katowice, Poland

Technical Summary

This tract encompasses five exploration concessions. In a joint venture with McKenzie Methane Poland, PolTex drilled seven wells to depths of 1,400 to 1,850 m. Four more have reportedly been drilled. In May 1995, PolTex acquired the remaining interest from McKenzie Methane, and in March 1997, PolTex signed an agreement with Texaco Poland to acquire the rights to appraise and develop CBM.

**Estimated Capital
and O&M Costs**

Under the agreement, Texaco has made an initial cash payment of US\$500,000 and started a substantial initial drilling program in mid-October 1997. If the program is successful, at the end of an 18-month period Texaco can elect to continue work on the concession in exchange for an additional US\$2.5 million. Texaco will then have 30 months to undertake development, and may complete the acquisition for a further US\$2.5 million payment. In addition, PolTex will receive a portion of the profits from the sale of the methane gas.

**Proponents/
Sponsors of the
Project**

Poltex Methane



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Metanel SA Project in Upper Silesia

Contact Information

Metanel SA

Status

On-going

Location

Upper Silesia Coal Basin in the state of Katowice, Poland

Technical Summary

Concesions granted to Metanel SA cover 27 km². At the beginning of June 1994, the company spudded the first exploratory well. The test results recovered high-methane gas without any remnants of sulfur, nitrogen, or their chemical combinations. Gas will be produced from coal beds one or more meters thick in the reservoir located at a depth 510 to 1000 meters below ground level. Metanel plans to drill 70 wells and to reach a productivity of 150 million st m³.

**Proponents/
Sponsors of the
Project**

Metanel SA

Lessons Learned

A problem with salt water disposal was resolved by storing it in a sandy reservoir 1000 m below ground level.



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McCormick Energy Project in Upper Silesia

Contact Information	McCormick Energy
Status	Suspended
Location	Upper Silesia Coal Basin in the states of Krakow and Katowice, Poland
Technical Summary	In 1993, McCormick Poland was awarded a concession in an area of virgin exploration in the eastern part of the basin. The company signed a contract to drill nine wells on two license blocks covering 243 km ² .
Proponents/ Sponsors of the Project	McCormick Energy